

ABSTRACT

**NT-proBNP LEVEL CHANGES AFTER COMBINATION THERAPY WITH -
BLOCKER AND ACE-INHIBITOR IN PATIENT WITH HEART FAILURE****Reine Risa Risthanti**

Background : Heart failure (HF) is the final common stage of many diseases of the heart. NT-proBNP levels are increased in HF and correlate well with ventricular wall stress and severity of HF. The prognostic power of NT-proBNP is well established in heart failure patients. Higher concentrations of NT-proBNP are associated with increased cardiovascular events and all cause mortality. Combination therapy with Bisoprolol and ACE-inhibitor decreases NT-proBNP level in patient with HF. The use of Bisoprolol as a combination with ACE-inhibitor is still dominate in outpatient setting at Dr. Soetomo teaching hospital.

Objective : The objective of this study is to analyze NT-proBNP level changes as an indicator in cardiac function after combination therapy with Bisoprolol and ACE-inhibitor in patient with HF.

Methods : This study was prospective, observational and conducted in outpatient setting. Consecutive patients who meet the inclusion criteria of the study were included. Blood samples were taken at pre and 2 months post combination therapy with Bisoprolol and ACE-inhibitor, then NT-proBNP level was measured with IMMULITE®. Ethical clearance of this study was held at Dr. Soetomo Teaching Hospital.

Result : There were 14 patients enrolled in this study (7 males, 7 females). The result showed that NT-proBNP 2 months post combination therapy with Bisoprolol and ACE-inhibitor is significantly decreased than baseline with mean baseline of NT-proBNP level is 4191.43 ± 4367.277 pg/ml to 2786.79 ± 2485.199 pg/ml ($p=0.025$). NT-proBNP levels decrease by 20%-80% of baseline or below the cutpoint <1000 pg/ml in outpatient setting can reduce the risk of death, transplantation, and the incidence of hospital admission. From a total 14 patients, 9 patients had NT-proBNP decreases $>20\%$ (20.1% – 56.4%) and 3 patients had NT-proBNP decreases $<20\%$ (1.8%; 6.6%; and 12.4%). There were 2 patients with NT-proBNP increases $>40\%$ (43.4% and 40.4%).

Conclusion : There was a significant decreases in NT-proBNP level after 2 months combination therapy with Bisoprolol and ACE-inhibitor in patient with HF.

Keywords : NT-proBNP, heart failure, Bisoprolol, Angiotensin-converting enzyme inhibitors